Name: _____ Group: _____ Date: _____

LAB 38
TECHNIQUE

EXTRACTING DNA

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Goal

Learn a technique for extracting DNA.

Materials

- electrical mixer
- piece of onion (chilled)
- spatula
- 5 g of table salt
- weighing pan
- balance (accurate to 0.01 g)
- wash bottle of distilled water (chilled)
- 150-mL beaker (chilled)
- glass stirring rod
- 100-mL graduated cylinder
- 20 mL of liquid detergent
- mortar and pestle (chilled)
- coarse filter
- 50 mL of ethanol (chilled)
- slide
- dropper bottle of methyl-green dye
- cover slip
- light microscope

Procedure

1. Coarsely grind the piece of onion with the mixer.

2. Measure 5 g of table salt into the weighing pan. Dissolve the salt into 100 mL of distilled water in the beaker.

3. Add the ground onion and the saline solution to the mortar.

4. Add a few drops of liquid detergent.

5. Mix with the pestle.

6. Filter the mixture into the beaker.

7. Carefully pour 50 mL of ethanol down the sides of the beaker to keep it separated from the mixture.

8. Observe for several minutes.

9. Collect the white filaments at the interface of the mixture and the ethanol with the glass stirring rod.

10. Place the filaments on the slide.

11. Add a few drops of methyl-green dye and set the cover slip on the slide.

12. Observe the sample under the microscope.

13. Clean up and put away materials.

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Reflecting on the lab technique

1. Provide a step from the lab procedure corresponding to each step of the DNA extraction technique.

Step of extraction technique	Step of lab procedure
Separate and break cells.	
Dissolve cell and nuclear membranes to free DNA from nucleus.	
Separate dissolved DNA from other cell components.	
Cause DNA to precipitate on interface of two substances.	
Colour DNA.	

2. Methyl-green dye colours DNA. What was collected at the end of the experiment? Explain your answer.

_____

_____

3. What is the shape of the DNA extracted?

_____

_____

4. What is the shape of the DNA found between cell divisions?

_____

_____

5. What are the possible sources of error in this lab?

_____

_____